

**ABSTRACT OF THE DISCLOSURE**

A motion sensor system for a tire pressure monitoring system (TPMS) that uses a piezoelectric sensor to sense vibration as an indication of wheel motion. The TPMS uses the detected vibration to transition between operation modes. In one embodiment, the TPMS has a motion mode and a park mode, wherein the TPMS has increased activity (e.g. sampling tire pressure at a higher rate and transmitting tire pressure at a higher rate) during the motion mode than in the park mode.